

CLAIMS

1. A method of forming an interferometer film for an interferometer sensor comprising the step of forming a polymer layer of substantially uniform thickness directly on an interferometer substrate, the layer forming the interferometer film, wherein the polymer layer is deposited by polymerisation of a gas of monomer particles including a para-xylylene.
2. A method according to claim 1, further comprising, prior to the polymerisation, the step of forming a gas of monomer particles in a first chamber at a first pressure and a first temperature and coupling the gas of monomer particles to a deposition chamber.
3. A method according to claim 2, wherein the substrate is placed in the deposition chamber and, at a second pressure and second temperature, monomer particles polymerise on the substrate.
4. A method according to claim 3, wherein the second temperature is the ambient temperature.
5. A method according to any one of claims 2 to 4, in which the deposition chamber has an internal pressure of less than 20Pa.
6. A method according to any preceding claim, in which the substrate is the cleaved end of an optical fibre.
7. An interferometer sensor comprising an interferometer substrate and a parylene polymer film of substantially uniform thickness, in which the parylene film is formed directly on the interferometer substrate.
8. A sensor according to claim 7, in which the parylene film is formed by a method

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A1

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A2

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(contd)*

~~according to any of claims 1 to 6.~~

9. Medical analysis equipment having an interferometer sensor assembly comprising:

- 5 an interferometer sensor according to claim 7 or 8;
 an interrogation source to provide an interrogation signal to the sensor; and
 a detector to detect signals received from the sensor.
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